

providing a plurality of sensing slots uniformly spaced around the rotor.

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B¹
C¹Amend.*

3. (Amended) A method for modifying an electric machine drive rotor having a stator to create rotor-position-dependent saliency and allow sensorless control, the method comprising:

providing a plurality of sensing slots variably spaced in a repeating manner around the rotor, wherein the distance between an adjacent pair of said plurality of sensing slots is variably spaced with respect to the distance between a next adjacent pair of said plurality of sensing slots.

4. (Amended) The method of claim 2, wherein each of said plurality of sensing slots has a uniform width and depth around the rotor.

5. (Amended) The method of claim 2, wherein each of said plurality of sensing slots has a uniform width around the rotor and wherein the depth of each of said plurality of sensing slots varies in a repeating manner around the rotor.

6. (Amended) The method of claim 2, wherein each of said plurality of sensing slots has a uniform depth around the rotor and wherein the width of each of said plurality of sensing slots varies in a repeating manner around the rotor.

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cont.

7. (Amended) The method of claim 2, wherein said plurality of sensing slots are provided to the rotor in a post-assembly step.

8. (Amended) The method of claim 2, wherein said plurality of sensing slots are coupled with a plurality of stator slots of the stator.

10. (Amended) A sensorless control electric machine drive comprising:

a stator having a plurality of stator slots; and

a rotor having a plurality of rotor sensing slots located along its outer periphery, wherein said plurality of rotor sensing slots are coupled to said plurality of stator slots and wherein said plurality of rotor sensing slots are spaced uniformly around the outer periphery of said rotor.

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11. (Amended) A sensorless control electric machine drive comprising:

a stator having a plurality of stator slots; and

a rotor having a plurality of rotor sensing slots located along its outer periphery, wherein said plurality of rotor sensing slots are coupled to said plurality of stator slots and wherein said plurality of rotor sensing slots are variably spaced in a repeating pattern around the outer periphery of said rotor, wherein the distance between an adjacent pair of said plurality of sensing slots is variably spaced with respect to the

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distance between a next adjacent pair of said plurality of sensing slots.

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13. (Amended) The sensorless control electric machine drive of claim 11, wherein the depth of said plurality of rotor sensing slots is varied in a repeating pattern around said rotor.

14. (Amended) The sensorless control electric machine drive of claim 11, wherein the width of said plurality of rotor sensing slots is varied in a repeating pattern around said rotor.

15. (Amended) The sensorless control electric machine drive of claim 11, wherein the sensorless control electric machine drive is selected from the group consisting of a sensorless control induction machine, a Lundell-type synchronous machine, a buried permanent magnet synchronous machine, and a surface permanent magnet synchronous machine.

17. (Amended) A sensorless control electric machine drive comprising:

a stator having a plurality of stator slots; and

a rotor having a plurality of rotor sensing slots located along its outer periphery, wherein said plurality of rotor sensing slots are spaced uniformly around the outer periphery of said rotor.

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18. (Amended) A sensorless control electric machine drive comprising:

a stator having a plurality of stator slots; and

a rotor having a plurality of rotor sensing slots located along its outer periphery, wherein said plurality of rotor sensing slots are variably spaced in a repeating pattern around the outer periphery of said rotor, wherein the distance between an adjacent pair of said plurality of sensing slots is variably spaced with respect to the distance between a next adjacent pair of said plurality of sensing slots.

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24. (Amended) The sensorless control electric machine drive of claim 17, wherein the sensorless control electric machine drive is selected from the group consisting of a sensorless control induction machine, a Lundell-type synchronous machine, a buried permanent magnet synchronous machine, and a surface permanent magnet synchronous machine.

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Please add the following new claims 25-27 to read as follows:

25. (New) The method of claim 3, wherein said plurality of sensing slots around the rotor are provided to the rotor in a post-assembly step.

26. (New) The method of claim 3, wherein said plurality of sensing slots are coupled with a plurality of stator slots of a stator.

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27. (New) The sensorless control electric machine drive of claim 18, wherein the sensorless control electric machine drive is selected from the group consisting of a sensorless control induction machine, a Lundell-type synchronous machine, a buried permanent magnet synchronous machine, and a surface permanent magnet synchronous machine.